

### **Abstract of the Disclosure**

Methods and pharmaceutical compositions for using desmethylselegiline. In particular, the present invention provides novel compositions and methods for using desmethylselegiline for selegiline-responsive diseases and conditions. Diseases and conditions responsive to selegiline include those produced by neuronal degeneration or neuronal trauma and those due to immune system dysfunction. Desmethylselegiline is the R(-) enantiomer of N-methyl-N-(prop-2-ynyl)-2-aminophenylpropane. Claimed compositions include both the R(-) isomer and mixtures of the R(-) and S(+) isomers. Pharmaceutically acceptable acid addition salts may also be used. Effective dosages are a daily dose of at least about 0.015 mg/kg of body weight.